



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

646.3110
Job Sheet 168223



Part No: 646.3110

Job Qty: 6 ea

Part Name: Channel



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 11/13/17

Job Tracking No:

Due Date: 12/1/17

Created By: Linda Lacelle

Type: Stock

Description:

Note: DWG REV N/C IPP REV:A NEW ISSUE 12-10-24 JLM VERIFIED BY:DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	6 Ea		11/30/17	0.00	0.00	Start Up Machining		
100	Bandsaw	6 pcs		11/30/17	0.00	0.33	Bandsaw1		
110	CNC Vertical Machining	6 pcs		12/1/17	0.43	6.67	HAAS 1		
120	QC	6 pcs		12/1/17	0.00	0.00	QC2		
130	QC	6 pcs		12/1/17	0.00	0.00	QC8		
140	Outsource	6 pcs		12/1/17	0.00	0.00	Outsource4		
150	Packaging	6 pcs		12/1/17	0.00	0.00	Packaging2		
155	QC	6 pcs		12/1/17	0.00	0.00	QC5		
180	Packaging	6 pcs		12/1/17	0.00	0.00	Packaging3		
190	QC21-SA	6 Ea		12/1/17	0.00	0.00	QC21		

Part Op 100 - Cut Blank at 15.00"

Descriptions: 110 - 1-Machine per folio FB145

140 - Issue P/O to ATG : _____ 1- Black Anodize as per Dwg 646.3100

180 - ***IDENTIFY AS PER APICAL P-120 BY STAMPING P# AND REV***

Job Allocations

Job Allocations could not be found.

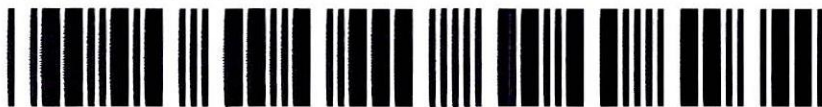
7075TG B1.50 X 1.50

Part Specifications

Specifications could not be found.

Plex 11/13/17 4:15 PM dart.boucher.sylvie

DART
AEROSPACE
S023060



Channel

PART NO: 646.3110
Revision:
Operation: Outsource
Change No:

Mfg Date: 12/15/17
Job No: 168223

Dart Aerospace Ltd.

1270 Aberdeen Street
Hawkesbury, ON K64 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

DART
AEROSPACE
S023060



Channel

PART NO: 646.3110
Revision:
Operation: Start up Operation
Change No:

Mfg Date: 12/15/17
Job No: 168223

Dart Aerospace Ltd.

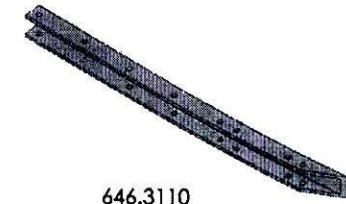
1270 Aberdeen Street
Hawkesbury, ON K64 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

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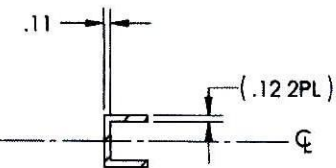
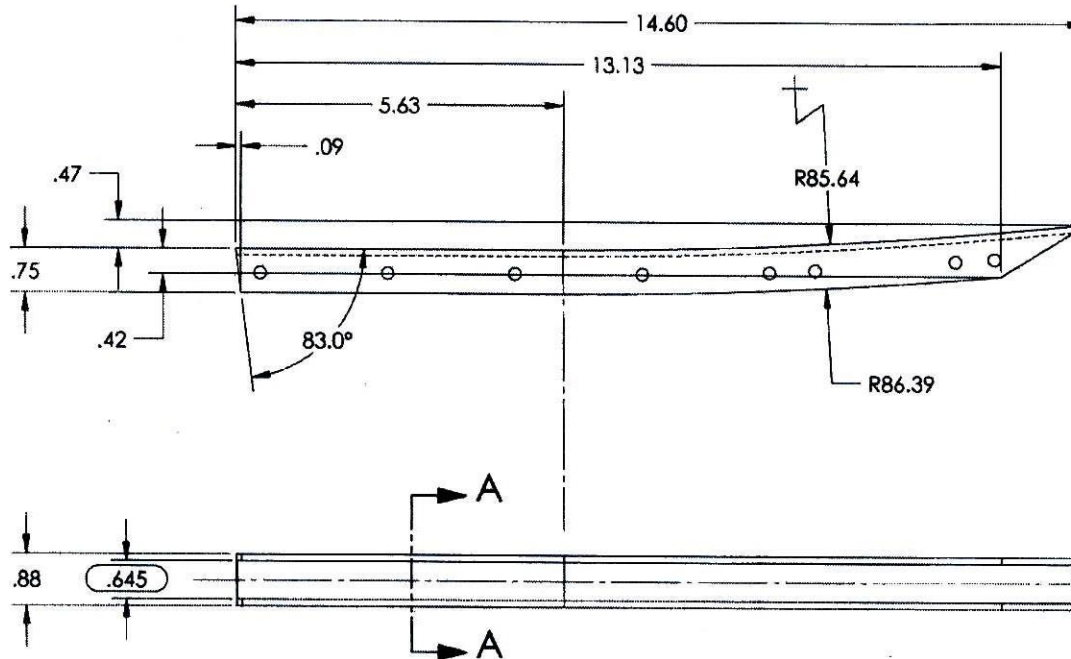
NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 AMS-QQ-A-225/9
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III CLASS 2, COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER; PRIME IAW MIL-P-23377J TYPE I CLASS N
- 3 DEBURR AND BREAK ALL SHARP EDGES
- 4 IDENTIFY IAW MPP-120

REVISION			
REV	DESCRIPTION	DATE	APPROVED



646.3110



SECTION A-A

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 168223

646.3110		CHANNEL	△	△
FIND #	PART #	DESCRIPTION	MAT'L	SPEC.
QTY	PARTS LIST			
NEXT ASSY (S)	ORIGINAL DATE	DATE	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
646.4000	DESIGNED BY	CREATED		
	T. HUFF	P. BRAVO		
	DRAWING APPROVAL	DATE		
	DR-75-08 P. BRAVO		CHANNEL	
	CONTRACT NO.			
	UNFINISHED DIMENSIONS SPECIFIED	DATE	REV	
	DIMENSIONS ARE IN INCHES		B	07M26
	TOLERANCES ARE			646.3100
	2 PLACE DECIMALS ±.010			N/C
	3 PLACE DECIMALS ±.005			
	ANGLES ± 3°			
	SCALE NONE			SHEET 1 OF 2

DQA: _____ Date: _____



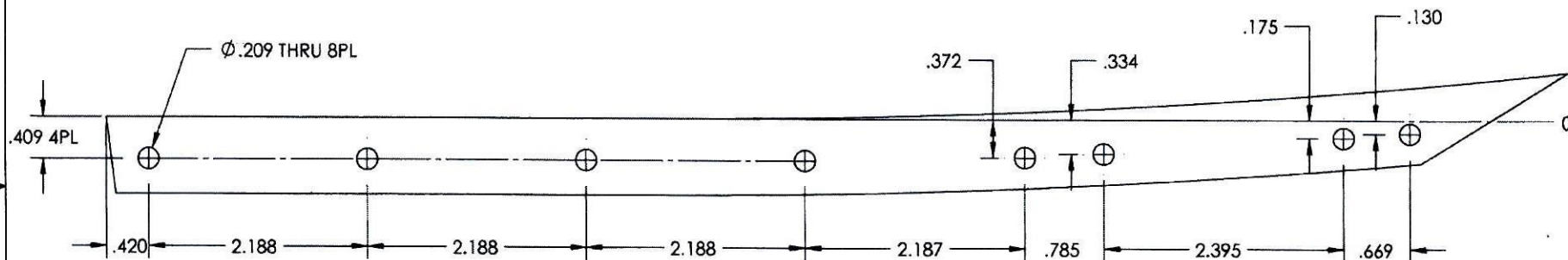
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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646.3110 HOLE LOCATIONS
ALL ABOVE DIMS TO +/- .002

ORIGINAL DATE (MO-DA-YR) 66-01-08		APICAL INDUSTRIES	
DESIGNED BY S. HOFF		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL T. BRAYO		CHANNEL	
CONTRACT NO.		646.3100	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS .005 2 PLACE DECIMALS .010 1 PLACE DECIMALS .030 ANGLES ± .5°		REV B	N/C
SCALE NONE		SHEET 2 OF 2	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

DART AEROSPACE LTD	Work Order: 168223
Description: Channel	Part Number: 646.3110
Inspection Dwg: 646.3100 Rev: N/C	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
14.60	+/-0.010	14.599	/			
13.13	+/-0.010	13.129	/			
0.09	+/-0.010	0.090	/			
0.47	+/-0.010	0.468	/			
0.75	+/-0.010	0.748	/			
83°	+/-0.5°	83.2°	/			
0.88	+/-0.010	0.875	/			
0.645	+/-0.005	0.647	/			
0.11	+/-0.010	0.110	/			
0.12	+/-0.010	0.114	/			
Ø0.209	+0.005/-0.001	0.210	/			
0.409	+/-0.005	0.409	/			
0.420	+/-0.002	0.420	/			
2.188	+/-0.002	2.188	/			
2.188	+/-0.002	2.188	/			
2.188	+/-0.002	2.188	/			
2.187	+/-0.002	2.187	/			
0.785	+/-0.002	0.784	/			
2.395	+/-0.002	2.395	/			
0.669	+/-0.002	0.669	/			
0.372	+/-0.002	0.370	/			
0.334	+/-0.002	0.332	/			
0.175	+/-0.002	0.173	/			
0.130	+/-0.002	0.128	/			

Measured by: [Signature]	Audited by: F.K.	Preliminary Approval:
Date: 17/12/14	Date: 17-12-16	Date:

Rev	Date	Change	Revised by	Approved
A	13.09.17	New Issue	KJ [Signature]	[Signature]

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	☐ OTHER : _____			



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO038682

Supplier: ATG001-VC
A.T.G. Industries Inc
731 INDUSTRIELLE ROAD
ROCKLAND
ON
K4K 1T2 Canada
Phone: 613-446-4544
Fax: 613-446-4556

Attention: Lalande, Marc-Andre

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO038682
PO Date: 12/19/17
Due Date: 1/5/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Phone:

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

E-MAILED
DEC 27 2017

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	169179	649.4814	Doubler ISSUE P/O: _____ HARD ANODIZE, COLOR BLACK AS PER DWG. (SEE NOTE 2) PRIME IAW MIL-P-23377J TYPE1 CLASS N AS PER DWG. (SEE NOTE 2)	Firmed	1/17/18	10 pcs	0 pcs	10 pcs	\$7.25/pcs	\$72.50
2	168024	646.3812	Gusset Bracket Issue P/O to ATG : _____ Hard Anodize Black and Prime as Per Dwg 646.3800	Firmed	1/17/18	8 pcs	0 pcs	8 pcs	\$7.10/pcs	\$56.80
3	168250	646.3810	Bracket Issue P/O to ATG : _____ 1- Hard Anodize Black and Prime as per Dwg 646.3800	Firmed	1/17/18	5 pcs	0 pcs	5 pcs	\$7.55/pcs	\$37.75
4	168252	646.3812	Gusset Bracket Issue P/O to ATG : _____ Hard Anodize Black and Prime as Per Dwg 646.3800	Firmed	1/17/18	5 pcs	0 pcs	5 pcs	\$7.10/pcs	\$35.50
5	169178	649.4812	Shim ISSUE P/O: _____ HARD ANODIZE, COLOR BLACK AS PER DWG. (SEE NOTE 2) PRIME IAW MIL-P-23377J TYPE1 CLASS N AS PER DWG. (SEE NOTE 2)	Firmed	1/17/18	20 pcs	0 pcs	20 pcs	\$13.15/pcs	\$263.00
6	168253	646.3813	AS350 Strut Bracket Issue P/O to ATG : _____	Firmed	12/22/17	5 pcs	0 pcs	5 pcs	\$7.10/pcs	\$35.50



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO038682

Items										
Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
			Hard Anodize Black and Prime as Per Dwg 646.3800							
Line Item Note RUSH										
7	168025	646.3813	AS350 Strut Bracket Issue P/O to ATG : Hard Anodize Black and Prime as Per Dwg 646.3800	Firmed	12/22/17	5 pcs	0 pcs	5 pcs	\$7.10/pcs	\$35.50
Line Item Note RUSH										
8	168239-A	646.3610	Filler Issue P/O to ATG : 1- Hard Anodize Black and Prime as per Dwg 646.3600	Firmed	1/17/18	6 pcs	0 pcs	6 pcs	\$7.60/pcs	\$45.60
9	168239	646.3610	Filler Issue P/O to ATG : 1- Hard Anodize Black and Prime as per Dwg 646.3600	Firmed	1/17/18	12 pcs	0 pcs	12 pcs	\$7.60/pcs	\$91.20
10	168280	647.0210	Rail Issue P/O to ATG : AS PER MPP-172 SECTION 2.1, HARD ANODIZE COLOR BLACK, PER IAW MIL-A-8625 TYPE 3 CLASS 2 AS PER MPP-172 SECTION 4.2, PRIME AS PER IAW MIL-PRF-23377 TYPE 1 CLASS N	Firmed	1/17/18	11 pcs	0 pcs	11 pcs	\$11.50/pcs	\$126.50
11	168223	646.3110	Channel Issue P/O to ATG : 1- Hard Anodize Black and Prime as per Dwg 646.3100	Firmed	12/22/17	6 pcs	0 pcs	6 pcs	\$11.65/pcs	\$69.90
Line Item Note RUSH										
12	168839	649.4813	Shim ISSUE P/O: As Per MPP-172 Section 2.1, Hard Anodize IAW MIL-A-8625, Type III, Class 2, Color Black As Per MPP-172 Section 4.2 Prime IAW MIL-P-23377J Type1 Class N	Firmed	12/22/17	20 pcs	0 pcs	20 pcs	\$7.25/pcs	\$145.00
Line Item Note RUSH										
13	169183	649.5212	Bracket Issue P/O to ATG : 1- Hard Anodize Black as per Dwg	Firmed	1/17/18	5 pcs	0 pcs	5 pcs	\$10.00/pcs	\$50.00



A.T.G. Industries Inc.
731 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 914353

Date: 22-Dec-17

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

Chantal Lavoie
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
		OUR TRUCK	
Quantity	Description		
	Please reference this document's Pack List number on all correspondences regarding this shipment. If you have any questions, please contact us.		
6 ea	Part: 646.3110 Channel Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 22199		Rev: N/C PO: PO038682 Line: 11 ✓
20 ea	Part: 649.4813 Shirn Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 22200		Rev: D PO: PO038682 Line: 12 ✓
10 ea	Part: 647.7823 Cross Bracket Aft Job: 22204		Rev: PO: PO038682 Line: 16
5 ea	Part: 646.3813 AS530 Strut Bracket Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 22194		Rev: N/C PO: PO038682 Line: 6
5 ea	Part: 646.3813 AS350 Strut Bracket Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 22195		Rev: N/C PO: PO038682 Line: 7
Made in Canada.			



A.T.G. Industries Inc.
731 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 914353

Date: 22-Dec-17

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

Chantal Lavoie
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms	Ship Via
	OUR TRUCK
Quantity	Description
	CERTIFICATE OF CONFORMANCE A.T.G Industries Inc. certifies that all items in this shipment conform to the requirements. Date: <u>22/12/17</u> Certified Signature: <u>J. Rich</u> Receiver Signature: _____ A.T.G Industries Inc. is AS9100 Registered and Nadcap Chemical Processing Accredited. Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt. Made in Canada.